

ABSTRACT OF THE DISCLOSURE

A plasma source assembly including an outer shield, a dielectric chamber wall, and a helical coil provided between the outer shield and the dielectric chamber wall. The plasma source assembly also includes a coil support assembly configured to facilitate repeatable performance of the helical coil. Preferably, the assembly includes a plenum cooling plate that is configured to supply cooling fluid to a first cooling rod provided within a resonator cavity defined by the chamber wall and the outer shield, and receive cooling fluid from a second cooling rod provided within the resonator cavity. The assembly preferably also includes a spacer provided between the first cooling rod and the second cooling rod, and coil insulators having holes configured to receive the helical coil.